

Materials Science and Technology Division

personal *profile*

Matt Johnson

Master joiner

Matt Johnson isn't just an expert in welding and joining materials. He's also an expert in fusing relationships.

It's a combination that has brought the engineer success at Los Alamos National Laboratory, where his expertise has proved critical to several high-profile projects.

Johnson, the welding and joining team leader in the Materials Science and Technology Division's Materials Technology: Metallurgy Group (MST-6), recently applied his unique skills to help bring a lifetime extension program back on track and to assist the DynEx Vessel Project in meeting critical program requirements.

"Matt delivered," said Lloyd Montoya, project director for the lifetime extension program. "He produced for us, which is extremely important in this program."

The project, which has an "extremely aggressive schedule," Montoya said, had stalled in May due to a difficult welding issue "and there was no relief in sight. We needed people to keep their focus."

Johnson provided that focus and was "instrumental in getting the whole project moving on."

Not only did he assist in resolving the welding matter by "providing information above and beyond the call of duty," Montoya said, but he also "followed through with everybody. He managed to get people (at Los Alamos and the production agency) working together."

Chris Romero, who was DynEx Vessel Project Leader responsible for construction on the dual-axis confinement system used in hydrotest shots, described Johnson as "a godsend" as the project's metallurgist and welding engineer.



MST-6 Welding and Joining Team Leader Matt Johnson enjoys solving complex technical issues and working with people.

The project, which involved use of a new steel, had run into difficulties, Romero said, "but Matt was able to come in and resolve a lot of the welding (and fabrication) issues we were having...and share his subject matter expertise on how to work with this steel."

As part of the vessel fabrication effort, he also seamlessly joined a team including subject matter experts from Engineering Sciences and Applications and Dynamic Experimentation Divisions, and ARES Corporation which had been working together for years and eventually took the lead on engineering design analysis and manufacturing issues.

"Matt was able to help us bring it all together," said Romero, now test director for the Hydrotest Program.

Johnson said his experience on the DynEx project and the life extension project captures why he came to Los Alamos three years ago, attracted by the opportunity to work with world-class people and to access its world-class equipment.

"It all comes down to making a difference," he said. And for Johnson, solving difficult technical problems, working with the world's best technical talent, and motivating people to work together on the solution is central to that mission.

On the DynEx project, being able "to take a design and build a vessel with world-class people, to make something unique that will work well, is exciting," he said.

For the lifetime extension program, cracking a high-visibility technical issue

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with the support of senior Laboratory leadership, which allowed MST and production agency technical staff to solve an extremely difficult technical problem, was satisfying. “This was a demonstration of MST Division’s and LANL’s ability to be agile, to provide a solution across the (weapons) complex and not just to our own projects,” Johnson said. “Yes, relative to industry, there are some challenges here. We have different modes of operating because of some of the materials we work with...but I guarantee this problem could not have been solved anywhere but at LANL.”

Before coming to Los Alamos, Johnson admitted he assumed the Laboratory’s work focused primarily on weapons production, which would mean working solely with materials such as plutonium and uranium. But once here, he said, “I found that in addition to those areas there was a host of classical material problems” to explore. The opportunity to do a balance of engineering and research also appealed to Johnson, who enjoys the variety of complex work. “It’s a pleasure to work with very intelligent people here at LANL, with diverse knowledge that you can learn from, and who can help you solve nearly any type of problem.”

Focusing on the customer

Johnson, a Colorado Springs native, learned and honed his customer-service skills by working in industry, which he said was similar to working at the Laboratory. “The complexity of weapons work and the politics of how work gets done at Los Alamos is more challenging and interesting than I had expected,”

he said. “Trying to come up to speed on the various technical issues, materials, and systems has been somewhat like trying to take a drink from a fire hose”

After earning his doctorate in metallurgy and materials engineering in 1996 from the Colorado School of Mines, Johnson spent seven years at the Edison Welding Institute, a Columbus, Ohio-based non-profit consulting company.

There, Johnson worked on a range of projects for such companies as Ford Motor Company, Exxon, Lockheed Martin Corporation, and General Electric. His diverse work included performing steel pipeline failure analysis and studying structural damage caused by the 1994 Northridge, California earthquakes, the results of which eventually became the basis for structural fabrication in seismic regions.

“A lot of what I learned in industry has been useful here,” he said. “The main thing is to focus on customer service and everyone on the MST-6 welding team is customer focused. To get the job done and to be invested is the key. It is a pleasure to work with technically competent people who are committed to going the extra mile to get the job done right. One of the best parts of working at LANL is working with the welding and joining team members.”

Johnson lives in Santa Fe with his wife Cheryl, son Daniel, and two dogs.

—By Karen E. Kippen
MST Communications

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MST-6’s Matt Johnson



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